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ABSTRACT

A study was done to investigate the organization of teaching and learning activities experienced in teacher preparation courses in an urban university. A survey instrument developed for the study was administered to 254 trainees in 20 regular and special education courses. The graduate teacher education courses were stratified by educational setting (on campus/off campus) and subject areas (regular/special education), since the learning activities might differ between settings. A principal components analysis yielded five factors. The first factor, containing items that reflected the teacher's expectations that students use the "scientific method," accounted for the greatest variance in responses and indicated that whether instructors in teacher education courses do or do not encourage students to use the scientific method is a critical determinant organizing students' perceptions of the teaching-learning process. The apparent focus of the second factor was teachers expecting students to use "behavioral processes." This factor relied on behavioral strategies, such as engaging in practice and feedback. The third factor was labeled "social awareness," the fourth concerned "interpersonal activity," and the fifth was interpreted as "personal responsibility." The scales created provided a structure that could be used to investigate the types of instructional strategies modeled for trainees in education. Included are 1 table and 12 references. (JB)

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Urban Teacher Education Courses

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Running Head: TEACHER PREPARATION

2
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Abstract

This study investigated the organization of teaching/learning activities experienced in teacher preparation courses in an urban university. A survey instrument developed by the investigator was administered to 254 trainees in 20 regular and special education courses. A principal components analysis yielded 5 factors. The scales created provide a structure that can be employed to investigate the types of instructional strategies modeled for trainees in education. Because classroom teachers must broaden their repertoires of research-based instructional strategies in order to meet the needs of diverse learners, it would be important to determine the models being provided in teacher preparation courses in order to suggest improvements.

Types of Instructional Strategies Modeled in
Urban Teacher Education Courses

If we are to improve urban education, classroom teachers must broaden their repertoires of instructional strategies. A substantial research base documents the effectiveness of a number of methods of teaching and learning (Bos & Vaughn, 1991). Examples are memorization strategies (Mastropieri & Fulk, 1990), concept attainment (Lenz, Bulgren, & Hudson, 1990), mastery learning (Bloom, 1971), role playing (Shaftel & Shaftel, 1984), and cooperative learning (Slavin, 1988). However, we also know that classroom teachers typically employ only a few of these methods (Richardson, 1990; Smith, Hausken, Kovacevich, & McGuire, 1988). Because the learning styles and preferences of students vary, reliance on a narrow set of teaching practices is probably less effective than incorporating additional methods of instruction.

Teacher educators have at their disposal a powerful means to transmit to their students beginning competence in a broad range of instructional strategies by modeling these strategies in the courses they teach. In *Teachers for Our Nation's Schools* (1990), Goodlad reported that, given traditional reliance on limited methods of instruction in teacher education courses, this is seldom done. In an earlier study, Backus (1984) found that university instructional practices did not meet student needs. Additionally, Gibbs and Harland (1987) concluded that the lack of variety in British teacher training "is especially unfortunate at

a time when so many ... graduates will teach in schools and would benefit from good models" (p.159). There is little reason to believe that practices are different in the United States today.

The teaching/learning activities experienced in teacher preparation programs were the focus of this investigation. Because the kinds of in-class learning experiences expected of students are determined by the instructor, not by students, these experiences reflect the instructor's choice of teaching strategies. Activities such as role playing or working cooperatively with other students differ substantially from creating and testing hypotheses or determining the causes of events. At the same time that these activities are structured student learning experiences, they also represent the teaching strategies employed by the instructor.

This study investigated the organization of student perceptions of the types of teaching/learning activities they experienced in their teacher education courses. In order to think more clearly about instructional activities, it is useful to organize them into meaningful categories. Such paradigms facilitate teacher trainees' reflections on their own experiences. They also enhance teacher educators' effectiveness in communicating with students about instructional strategies by providing a conceptual organization of research-validated teaching/learning activities.

Methods.

A self-administered survey instrument developed by the investigator was completed by 254 students in graduate teacher education courses. A random sample of 20 courses was selected from those offered by the Graduate School of Education of a private, urban university. The courses were stratified by educational setting (on campus/off campus) and subject area (regular education/special education), since the learning activities in which students engaged might differ.

The student body is complex; many are currently employed as teachers in the city, some on a per diem basis because they have not yet met the requirements for certification. Most participants in special education were preparing to work in cross-categorical classes and to spend part of their day in regular classrooms. 81% of participants in the study were female; and 55% were enrolled in special education courses, with the remainder enrolled in regular education courses.

The questionnaire was constructed to conceptualize a model of the teaching/learning experiences of students in teacher preparation programs. Participants were asked to indicate the extent to which they were expected to engage in 25 different teaching/learning activities that relate directly to known principles of effective instruction. The investigator used selected components of Joyce and Weil's (1986) methods of teaching and learning as a beginning, then added other strategies that are also grounded in research. The individual items in the questionnaire were short, direct, and used common educational

terminology. They were ordered so that respondents were not likely to be alienated by the initial questions, and each question was planned to flow from the preceding one. The survey instrument used a 5-point scale ranging from "never" to "very frequently." It was pilot tested twice, and pilot subjects' critiques of the clarity and wording of the instructions and the items provided the basis for revision. The content validity of individual items was refined in interviews with 11 experienced teachers. Responses to the questionnaire were supervised by 3 trained research assistants who presented it in each of the classes.

Findings

To investigate the underlying structure organizing students' perceptions of the learning activities expected in teacher education courses, factor analysis was conducted on the frequency ratings. A principal components analysis yielded five factors, each with an Eigenvalue greater than 1.0, and each accounting for at least 5% of the variance, accounting for a total of 60% of the variance. A scree test was conducted, and it also suggested the existence of five factors. An orthogonal rotation for four common factors using varimax rotation yielded a cleaner and more meaningful factor structure than factor analysis using 3, 4, 6, or 7 common factors. Two items that double loaded on factors were assigned to the factor (#1) where they seemed the most consistent with the other items; these included "To what extent

does this class require that you organize information?" and "To what extent does this class require that you provide feedback to the instructor regarding your ability and your previous experience in the area being studied so that he/she may better plan the instruction?" The results of this factor analysis are presented in Table 1.

Insert Table 1 about here

The first factor contained items that reflected the teacher's expectations that students use the "Scientific Method." This factor loaded highly with items on asking questions, creating and testing hypotheses, looking for causes, organizing information, and using the scientific method, e.g., "To what extent does this class require that you ask appropriate questions, then use the information gained to create and test hypotheses?" This factor accounted for the greatest amount of variance in responses, indicating that whether instructors in teacher education courses do or do not encourage students to use the scientific method is a critical determinant organizing students' perceptions of the teaching-learning process.

Teachers expecting students to use "Behavioral Processes" was the apparent focus of the second factor. In contrast to the emphasis of the first factor on cognitive processes, this second factor relied on behavioral strategies, such as engaging in practice and feedback, e.g., "To what extent does this class

require that you learn a skill through a combination of demonstrations, practice, feedback and coaching?"

The third factor was labeled "Social Awareness," for it included items on studying social problems and social processes, as well as exploring personal feelings about teaching, a social activity. For example, the item loading highest on this factor was: "To what extent does this class require that you study cases involving social problems in areas where public policy needs to be made?"

The fourth factor was concerned with "Interpersonal Activity." In contrast to the third factor, this factor emphasized interaction with others as an approach to learning, e.g., "To what extent does this class require that you work cooperatively with small groups of other students in the class?"

The fifth factor was interpreted as "Personal Responsibility." Three items loading on this factor highlighted the teacher's emphasis on the student's responsibility for the learning process, e.g., "To what extent does this class require that you function independently and productively?" and "To what extent does this class require that you think effectively?"

Five scales were created, each consisting of the items comprising one of these five frequency factors, with each item scored 1-5. On examination, the internal reliability of these five scales was found to be moderately high, with standardized item alphas of .85 for Factor 1, .83 for Factor 2, .84 for Factor 3, .81 for Factor 4, and .72 for Factor 5.

Implications

These scales provide a structure underlying students' perceptions of the teaching/learning activities they experienced in an urban teacher preparation program. They can be employed to investigate the types of instructional strategies modeled for trainees in education, which will furnish current data based on actual practice. They can also be used to determine the types of instruction that trainees believe should be modeled in their teacher preparation courses. Acquiring this information is a necessary first step in improving teacher preparation programs through expanding the types of instructional strategies modeled by teacher educators.

To refine the measure, it would be important to replicate the factors with a new sample, perhaps adding more items that associate with "Personal Responsibility" (Factor 5) in order to strengthen it. Additionally, a reliability check by an instructor self-rating or an independent trained observer would provide reinforcement.

If we could rely on formal, pedagogical instruction to produce new teachers with command of a varied repertoire of instructional strategies to meet the needs of students with a wide range of learning profiles, the strategies we utilize in teacher education might be viewed as less important. However, given that the ways teachers learn to teach are complex and inconsistent, it seems apparent that the models provided in

teacher preparation programs should be as good as we can make them. By developing an instrument to investigate the types of research-based instructional strategies modeled by teacher educators, this study provides a structure for future investigation of ways to improve the preparation of teacher trainees in regular and special education.

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TABLE 1

Factor Loadings of Items on the Five Factors Assessing
Students' Perceptions of the Frequency of Learning Activities
Expected in Teacher Education Courses

FACTOR 1. Scientific Method

- .75 Given information, create and test hypotheses
describing relationships between sets of data.
- .75 Ask appropriate questions, then use the information
gained to create and test hypotheses.
- .65 Look for the causes of events.
- .65 Use advance organizers, such as outlines given by the
instructor, which provide a structure for understanding
the material presented through lectures, reading, and
other media.
- .61 Use the scientific method to explore the subject area
being studied.
- .52 Use strategies for memorizing information.
- .51 Learn concepts.
- .42 Organize information.
- .38 Provide feedback to the instructor regarding your
ability and your previous experience in the area being
studied so that he/she may better plan the instruction.

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FACTOR 2. Behavioral Processes

- .73 Learn a skill through a combination of demonstrations, practice, feedback, and coaching.
- .71 Master specific information or concepts before moving on to the next area to be studied; if mastery has not been achieved in the time allowed, you are encouraged to review or relearn the material.
- .63 Study information which has been divided into units ranging from the simple to the complex.
- .61 Modify your own behavior in class, given feedback by the instructor, so as to improve your performance.
- .56 Learn from simulations based on real-life situations.

FACTOR 3. Interpersonal Awareness

- .78 Study cases involving social problems in areas where public policy needs to be made.
- .71 Examine social processes, incorporating differences in the perspectives of other group members.
- .63 Communicate in ways that let others understand your goals and feelings, yet also leave room for other people to provide for their own needs.
- .59 Participate in workshop activities designed to help the group analyze social processes and improve social interactions.
- .51 Explore your own feelings about teaching.

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FACTOR 4. Interpersonal Activity

- .89 Work cooperatively with small groups of other students in the class.
- .80 Work with others creatively and skillfully.
- .57 Use role play to gain information about social issues and improve interpersonal skills.

FACTOR 5. Taking Responsibility

- .78 Function independently and productively.
 - .65 Think effectively.
 - .37 Participate in clarifying the goals of the class and planning their implementation.
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